

WHAT IS CLAIMED IS:

1. A printed circuit board where a first conductive layer and a second conductive layer forming conductive regions are respectively laminated, with an insulating layer intervened therebetween, between a first wiring layer and a second wiring layer for forming conductive wirings, the printed circuit board comprising:

conductive first interlayer connecting member that is insulated from the first conductive layer and the second conductive layer and connects a first wiring of the first wiring layer and a second wiring of the second wiring layer; and

conductive second interlayer connecting member that is connected to the conductive regions of the first conductive layer and the second conductive layer, is insulated from the first interlayer connecting member and surrounds the first interlayer connecting member.

2. The printed circuit board of claim 1, wherein the first conductive layer and the second conductive layer respectively include plural conductive regions of different potentials, with the second interlayer connecting member connecting conductive regions of substantially the same potential of the first conductive layer and the second conductive layer.

3. The printed circuit board of claim 2, wherein the plural conductive regions include a power region and a ground region.

4. The printed circuit board of claim 1, wherein the characteristic impedance relating to the first interlayer connecting member and the second interlayer connecting member, the

characteristic impedances of the first wiring and the characteristic impedances of the second wiring are substantially identical.

5. The printed circuit board of claim 4, wherein at least one of an outer diameter of the first interlayer connecting member and an inner diameter of the second interlayer connecting member is adjusted so that the characteristic impedance relating to the first interlayer connecting member and the second interlayer connecting member, the characteristic impedances of the first wiring and the characteristic impedances of the second wiring become substantially identical.

6. The printed circuit board of claim 4, further including a dielectric member between the first interlayer connecting member and the second interlayer connecting member, wherein the dielectric constant of the dielectric member is adjusted so that the characteristic impedance relating to the first interlayer connecting member and the second interlayer connecting member, the characteristic impedances of the first wiring and the characteristic impedances of the second wiring become substantially identical.

7. The printed circuit board of claim 1, wherein the first wiring and the second wiring are signal wires for signal transmission.

8. The printed circuit board of claim 1, wherein the first wiring and the second wiring are power wires for power supply.

9. The printed circuit board of claim 8, wherein a power terminal of an active device is

connected to one of the first wiring and the second wiring, one end of a condenser is connected to the other of the first wiring and the second wiring, and the other end of the condenser is connected to a ground region disposed on at least one of the first conductive layer and the second conductive layer via third interlayer connecting member.

10. The printed circuit board of claim 8, wherein the dielectric constant between the first interlayer connecting member and the second interlayer connecting member is higher than the dielectric constant between the first conductive layer and the second conductive layer.

11. The printed circuit board of claim 1, wherein the first wiring is configured by a pair of first differential signal wirings for differential signals, the second wiring is configured by a pair of second differential signal wirings for the differential signals, and a pair of the first interlayer connecting members respectively connecting one of the pair of first differential signal wirings with one of the pair of second differential signal wirings and the other of the pair of first differential signal wirings with the other of the pair of second differential signal wirings is surrounded by the second interlayer connecting member.

12. The printed circuit board of claim 11, wherein the differential impedances of the first interlayer connecting members are substantially identical to the differential impedances of the first differential signal wirings and the second differential signal wirings.

13. The printed circuit board of claim 11, wherein the common mode impedances of the pair of first interlayer connecting member with respect to the ground regions of the first conductive layer and the second conductive layer are substantially identical to at least one of

the common mode impedances of the pair of first differential signal wirings with respect to the ground regions and the common mode impedances of the pair of second differential signal wirings with respect to the ground regions.

14. The printed circuit board of claim 8, further including a dielectric member between the first interlayer connecting member and the second interlayer connecting member, wherein the dielectric constant of the dielectric member is adjusted so that the characteristic impedance relating to the first interlayer connecting member and the second interlayer connecting member and the characteristic impedance relating to the wirings become substantially identical.

15. The printed circuit board of claim 9, further including a dielectric member between the first interlayer connecting member and the second interlayer connecting member, wherein the dielectric constant of the dielectric member is adjusted so that the characteristic impedance relating to the first interlayer connecting member and the second interlayer connecting member and the characteristic impedance relating to the wirings become substantially identical.

16. The printed circuit board of claim 1, wherein the second interlayer connecting member is formed by plural via holes.

17. A printed circuit board where a wiring layer for forming a conductive wiring and a first conductive layer and a second conductive layer forming conductive regions are respectively laminated with an insulating layer intervened therebetween, the printed circuit board

comprising:

conductive first interlayer connecting member that is insulated from the first conductive layer and the second conductive layer and is connected to the wiring of the wiring layer; and

conductive second interlayer connecting member that is connected to the conductive regions of the first conductive layer and the second conductive layer, is insulated from the first interlayer connecting member and surrounds the first interlayer connecting member.

18. The printed circuit board of claim 17, wherein the characteristic impedance of the first interlayer connecting member and the second interlayer connecting member is set to a predetermined impedance.

19. The printed circuit board of claim 17, wherein the first conductive layer and the second conductive layer respectively include plural conductive regions of different potentials, with the second interlayer connecting member connecting conductive regions of substantially the same potential of the first conductive layer and the second conductive layer.

20. The printed circuit board of claim 19, wherein the plural conductive regions include a power region and a ground region.